REMARKS/ARGUMENTS

Reconsideration and withdrawal of the outstanding grounds of rejection are respectfully requested in light of the above amendments and the remarks which follow.

At the outset, applicant gratefully acknowledges the Examiner's allowance of claims 20-23, and the further indication that claim 13 contains allowable subject matter.

The Examiner has rejected claims 1-12, 14-19 and 24 under 35 U.S.C. 103 as unpatentable over Kaminski et al. in view of Calfee.

The Examiner acknowledges that Kaminski fails to show rings that each comprise at least two layers selected from the group consisting essentially of metals, glass fiber, laminates and graphite fiber laminates. Calfee is relied upon for its disclosure of a laminate that includes inner and outer metal foil layers and interior glass fiber and graphite fiber layers. According to the Examiner, it would have been obvious at the time the invention was made to modify Kaminski by constructing the rotor enclosure (made up of a plurality of rings) of a multi-layer laminate comprising at least two layers selected from the group consisting essentially of metals, glass fiber laminates and graphite fiber laminates as taught by Calfee.

It is important to note that the secondary reference to Calfee does not in any way relate to the construction of an enclosure for a rotor in a generator made up of a plurality of rings as required in claim 1. Rather, Calfee is concerned with improving the impact resistance and inter-laminar shear strength of unidirectional graphite laminate plates by using a corrugated aluminum foil within the plate. Given the very nature of the corrugations, it will only work with unidirectional fiber placement, and a corrugated sheet approach can never be applied to a body of revolution where hoop strength and stiffness are prime design requirements. If placed in the hoop direction, the metal corrugations would buckle when wrapped around a cylindrical mandrel for composite lay-up. If placed in an axial direction, the metal corrugations would be grossly inadequate in strength and stiffness in the hoop direction, and thus unable to resist inertia (centrifugal) loading. In the present invention, the claimed enclosure, made up of a plurality of rings, hoop-wound graphite and fabric-based axial graphite fiber reinforcement is incorporated into an annular ring configuration that provides strength and stiffness in both the hoop and axial directions. Inter-laminar shear strength in the present invention is achieved by placing the fabric-based graphite reinforcement at the one third and two third ring thickness locations that in addition, improves axial bending strength for long cylindrical rings.

Since Calfee relates only to flat plate construction and never even alludes to a body of revolution component like a ring, it is respectfully submitted that one of ordinary skill in the art would not have looked to Calfee for any teaching with respect to improving the properties of the ring enclosure of Kaminski. As such, independent claim 1 is clearly patentable over the prior art as cited and applied by the Examiner. With respect to dependent claim 2, the Examiner contends that Kaminski discloses an enclosure for a rotor wherein the rings are spaced at predetermined intervals, citing Figure 3 of that patent.

It is respectfully submitted that the Examiner has misunderstood the disclosure in Kaminski. Note in Figure 3 that the rotor enclosure is component 10, and there is no indication in the patent that the rotor 10 is comprised of rings spaced at predetermined intervals along the rotor.

Similarly, the requirement in dependent claim 3 that the rings are spaced axially is also nowhere disclosed or even remotely suggested in Kaminski.

Regarding dependent claim 4, the Examiner contends that Kaminski discloses an enclosure for a rotor wherein the plurality of rings include a plurality of axially shorter rings located between a pair of axially longer rings. Here again, applicant can find no suggestion of such an arrangement in Kaminski. With respect to claims 6-11, the Examiner acknowledges that the limitations disclosed therein are not to be found in either of the prior art references as applied. The Examiner nevertheless contends that the arrangement simply would have been obvious to one of ordinary skill in the art. Not only is the invention as described in independent claim 1 not shown or suggested in the prior art, but the specific arrangement required by claims 6-11, 16, 19 and 24 are also nowhere disclosed or suggested in the applied prior art, and it is error for the Examiner to simply conclude obvious matter of choice when there is no factual basis for the conclusion. The claimed arrangements are designed to specifically address problems experienced in prior art enclosures as described on page 2 of the specification. A mere assertion of obviousness with respect to arrangements that solve specifically stated problems is clearly erroneous.

For the above reasons, it is respectfully submitted that all of the application claims are in condition for immediate allowance, and early passage to issue is requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

Respectfully submitted,

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